



Southeast Alternative Fuels Demonstration Initiative (SADI)

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Project ID:
TI073



TRIANGLE J COUNCIL OF GOVERNMENTS

Timeline

- State Date: 7/15/2015
- End Date: 1/14/2018
- 75% Complete

Partners

- Technology Partners:
 - Alliance AutoGas, ICOM NA, Mainstay Fuel Technologies, Lighting Hybrids, Club Car, Johnston North America
- Education Partners:
 - Land of Sky Clean Fuels Coalition, Centralina Clean Fuels Coalition, NC Clean Energy Technology Center, Tennessee Clean Fuels, and Palmetto Clean Fuels Coalition
- Project Lead: Triangle J Council of Governments

Budget

- Total Funding: \$741,881
 - \$365,985: Government Share
 - \$375,896: Contractor Share
- 2016 Funding: \$107,899.67
- Funding for FY17-18: \$258,085.33

Barriers

- Barriers addressed
 - Support Pioneering Deployments of Market-Ready Vehicles and Alternative Fuels in Key Early Markets
 - Provide Best Practices, Objective Data, and Informational Materials to Potential End-Users and Investors to Promote Acceptance of Advanced Vehicles and Alternative Fuels

Project Objectives

OBJECTIVES

- ▶ Provide stakeholders and partners with opportunity to demo alternative fuel vehicles and test the technology prior to procurement
- ▶ Provide expertise and guidance to fleets considering fuel and vehicle options
- ▶ Help fleets work through identified barriers to alternative fuel adoption
- ▶ Provide neutral party to work through vehicle procurement options for fleets, and trusted resource for fleet managers

SUPPORTS DOE VEHICLE TECHNOLOGIES DEPLOYMENT

- ▶ SADI supports **EERE Goal 1** - Accelerate the Development and Adoption of Sustainable Transportation Technologies
- ▶ This is done through **Pathway 2**- Replacing conventional fuels with cost-competitive, domestically produced, sustainable alternatives (alternative fuels) that reduce pollution

Project Approach

Task 1: Overall Project Management and Planning



Task 2: Implement Demonstration Projects



Task 3: Conduct Driver Training



Task 4: Collect Vehicle Usage Data



Task 5: Publicize Successes, Best Practices, & Lessons Learned

Milestones- Budget Period 1

▶ **Technology Provider Commitments Obtained**

- ▶ Status: Contracts executed with Alliance Autogas, ICOM NA, Mainstay Fuel Technologies, Club Car and Johnston North America.

▶ **Data Management Plan is Completed**

- ▶ Status: Working with project partners to execute data management plan.- Data Management Plan Submitted June 16, 2016

▶ **Half of Planned Marketing Plans are Complete**

- ▶ Status: Marketing materials are being customized for each vehicle and region based on demonstration schedule. - Marketing Plan Submitted June 16, 2016

▶ **Data Collection Website**

- ▶ Status: Complete, will continue to update through end of project.

▶ **Technology Provider Participation Rates & Quantity and Quality of Test Drive Data**

- ▶ Status: Telematics have been discontinued due to cost concerns. Other forms of quantity and quality of test drive data are still being collected.

Milestones- Continuation

- ▶ **Continuation Application and Funding (Go/No Go)**
 - ▶ **Application for Approval to Continue**
 - ▶ Submitted: 7/14/16
 - ▶ **6 Month Extension of Budget Period 1**
 - ▶ Extended to: 12/14/17
 - ▶ **Second Application for Approval to Continue**
 - ▶ Approved: 1/14/17

Milestones- Budget Period 2

▶ **Final Driver Training**

- ▶ Status: Ongoing, effort will continue until demonstrations are complete

▶ **School Bus Report**

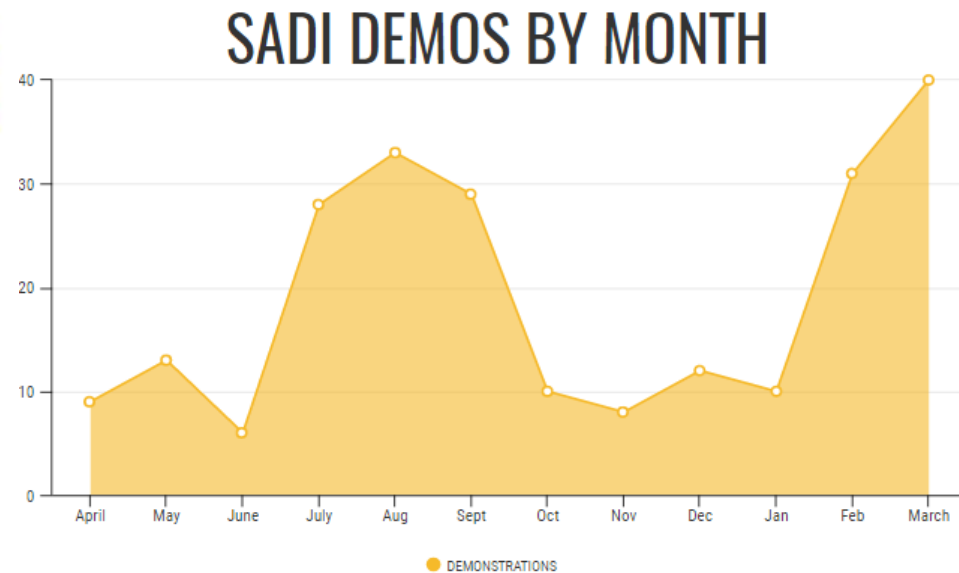
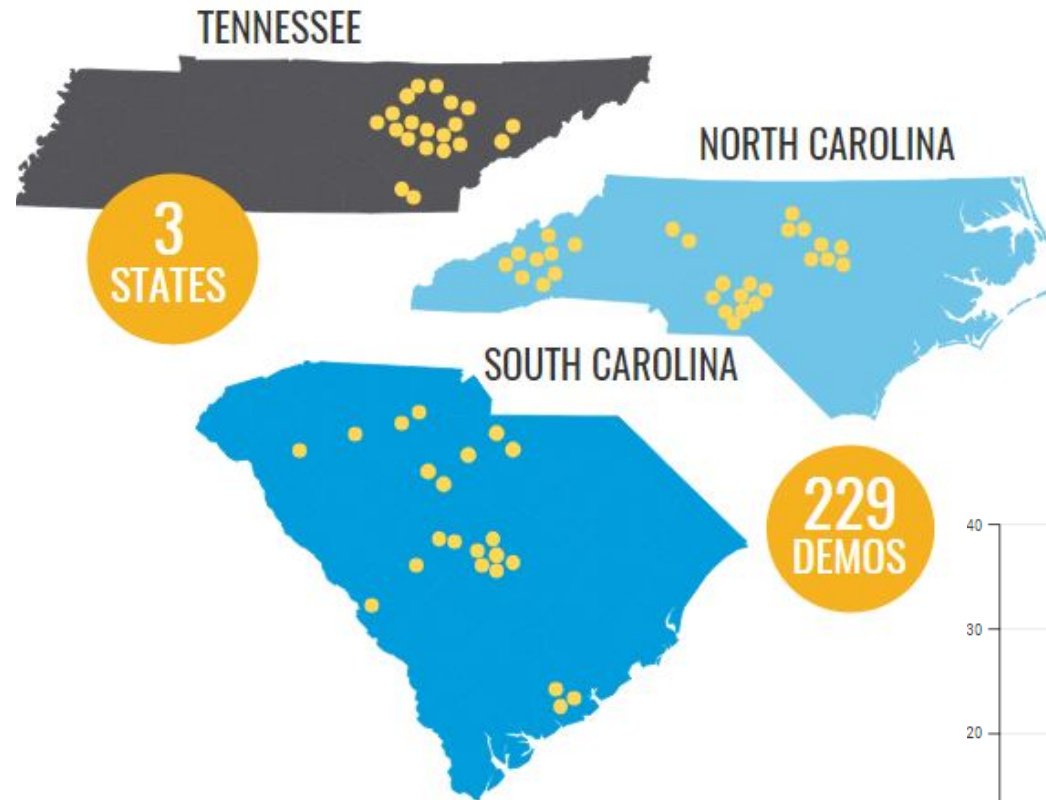
- ▶ Status: Not Applicable, no school bus technology partners are participating in SADI

▶ **100% of Deployment Target Met**

- ▶ Status: Ongoing, effort will continue until demonstrations are complete

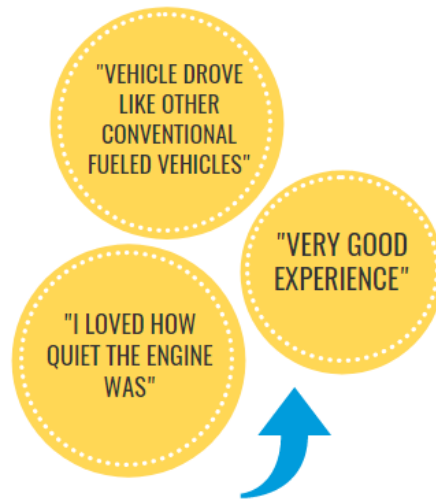
Project Accomplishments & Progress

– Demonstrations and Trainings



Project Accomplishments & Progress

- Surveys and Feedback



DRIVERS ARE SAYING

- LOWER EMISSIONS
- DECREASE COST
- INCREASE FUEL SAVINGS

- ▶ Approximately 100 surveys completed (to date)
- ▶ Opportunity for education and technology partners to respond to questions and feedback
- ▶ Able to identify common barriers and misconceptions
- ▶ Gain feedback from all drivers, not only decision makers



Collaboration and Coordination

Educations Partners



- ▶ Liaison between fleet and technology partners
- ▶ Lined up and arranged logistics for demos
- ▶ Requested fleet feedback and answered questions
- ▶ Wrote and promote successes, best practices, & lessons learned
- ▶ Provided eco-driving training
- ▶ Bi-weekly coordination with all education partners

Collaboration and Coordination

Technology Partners



- ▶ Provided vehicle(s) for demos
- ▶ Conducted preventive maintenance
- ▶ Provided technical vehicle-specific education
- ▶ Transported vehicles throughout project area
- ▶ Maintained needed insurance and liability coverage on the vehicle(s)
- ▶ Regular coordination with prime and region-specific coordination with Education Partners

Market Impact and Sustainability

REMAINING PROJECT ACTIVITIES	SUSTAINED AFTER PROJECT*
Provide stakeholders and partners with opportunity to demo alternative fuel vehicles and test the technology prior to procurement	Build industry knowledge in fleets throughout the Southeast regarding alternative fuel options and technologies
Provide expertise and guidance to fleets considering fuel and vehicle options	Continue to build relationships with fleet managers and the Clean Cities program
Market availability and desirability of alternative fuel fleet adoption	Reduce barriers and enhance knowledge on advantages to these fuel options
Provide neutral party to work through vehicle procurement options for fleets, and trusted resource for fleet managers	Trusted resource for fleets, know that sales pitch is not involved. Continue to build trust and relationships to leverage future procurement

*Any proposed future work is subject to change based on funding levels.

Summary Slide

- ▶ Deployment of vehicles continues, with solid fleet utilization
- ▶ Impact of program being tracked with reporting processes throughout all fleets
- ▶ Southeast partnerships built through program with Clean Cities Coalitions, Alternative Fuel Vehicle Vendors and Fleets
- ▶ Program has worked to remove barriers to alternative fuel fleet adoption, market these opportunities and build synergies with fleets and private industry
- ▶ Partnerships and collaborations will extend beyond project period and help to bolster adoption and support of these technologies throughout the Southeast

Technical Back-Up Slides



Demonstration Vehicles

▶ Alliance AutoGas

- ▶ Ford F-150, Propane
- ▶ Ford Transit, Propane
- ▶ Ford Explorer (Police Edition), Propane

▶ ICOM North America

- ▶ Chevy Trax, CNG
- ▶ Ford Explorer, Propane

▶ Mainstay Fuel Technologies

- ▶ Freightliner Cascadia, CNG

▶ Johnston North America

- ▶ Street Sweeper, CNG

▶ Club Car

- ▶ CarryAll 510, Electric

▶ Lighting Hybrids

- ▶ Ford E-450 Shuttle Bus, Electric Hybrid
- ▶ Ford E-450 Box Truck, Electric Hybrid

Survey Questions

- ▶ How many miles did you drive during the demo?
- ▶ Was this your first time driving an alternative fuel vehicle?
- ▶ How much experience would you say you have with any of the alternative fuels or alternative fueled vehicles?
 - ▶ Before this demo? Now that you had a demo?
- ▶ Please rate the following aspects of driving the alternative fueled vehicle COMPARED to a similar conventional gas or diesel vehicle.
 - ▶ Acceleration, Handling, Noise Level, Ease of Fueling, Overall Driving Experience
- ▶ Please provide any additional comments on aspects of driving the alternative fueled vehicle COMPARED to a conventional gas or diesel vehicle.
- ▶ Please provide any additional comments on aspects of driving the alternative fueled vehicle COMPARED to a similar conventional gas or diesel vehicle.
- ▶ Please rate how SAFE you felt with alternative fueled vehicle.

Survey Questions, continued

- ▶ Please rate how SAFE you felt with alternative fueled vehicle.
- ▶ Would you support the decision to purchase or lease alternative fueled vehicles for your organization's fleet?
 - ▶ If your answer was 'No' or 'Undecided' to the above question, what concerns or barriers to adoption would need to be overcome before utilizing alternative fuels?
- ▶ What did you enjoy most about driving the demo vehicle?
- ▶ What was your least favorite part about driving the demo vehicle?
- ▶ Thank you for your time. Please provide any additional comments or questions about the demo.
- ▶ I would like to be contacted to further discuss AFVs and my experience.

Critical Assumptions & Issues



Critical Assumptions & Issues

Critical Issue	Potential Solution
Technology Partner Participation- It was hard to find partners who had available vehicles and was willing to devote them exclusively to SADI.	We tried to be as flexible as possible with the partners to make the program mutually beneficial. We would also put potential partners in touch with current partners to provide their feedback on the project.
Insurance and Liability Concerns with Demonstrations- Many fleets had concerns with allowing their staff to drive vehicles that were not insured by their organization.	We had the technology partners work directly with the fleets to confirm coverage was provided. If fleet could still not participate, we encouraged a static training or ride along.
Low Petroleum Fuel Prices and Few Incentives Available- With a decrease in petroleum prices and few grants available it has become hard to make the business case for some alternative fuels.	SADI tried to focus on the other benefits of AFVs and hope that in the future there will be more financial incentives available.